

No. 664,580.

Patented Dec. 25, 1900.

C. F. PEKOR.
VALVE.

(Application filed Aug. 25, 1900.)

(No Model.)

Fig. 1.

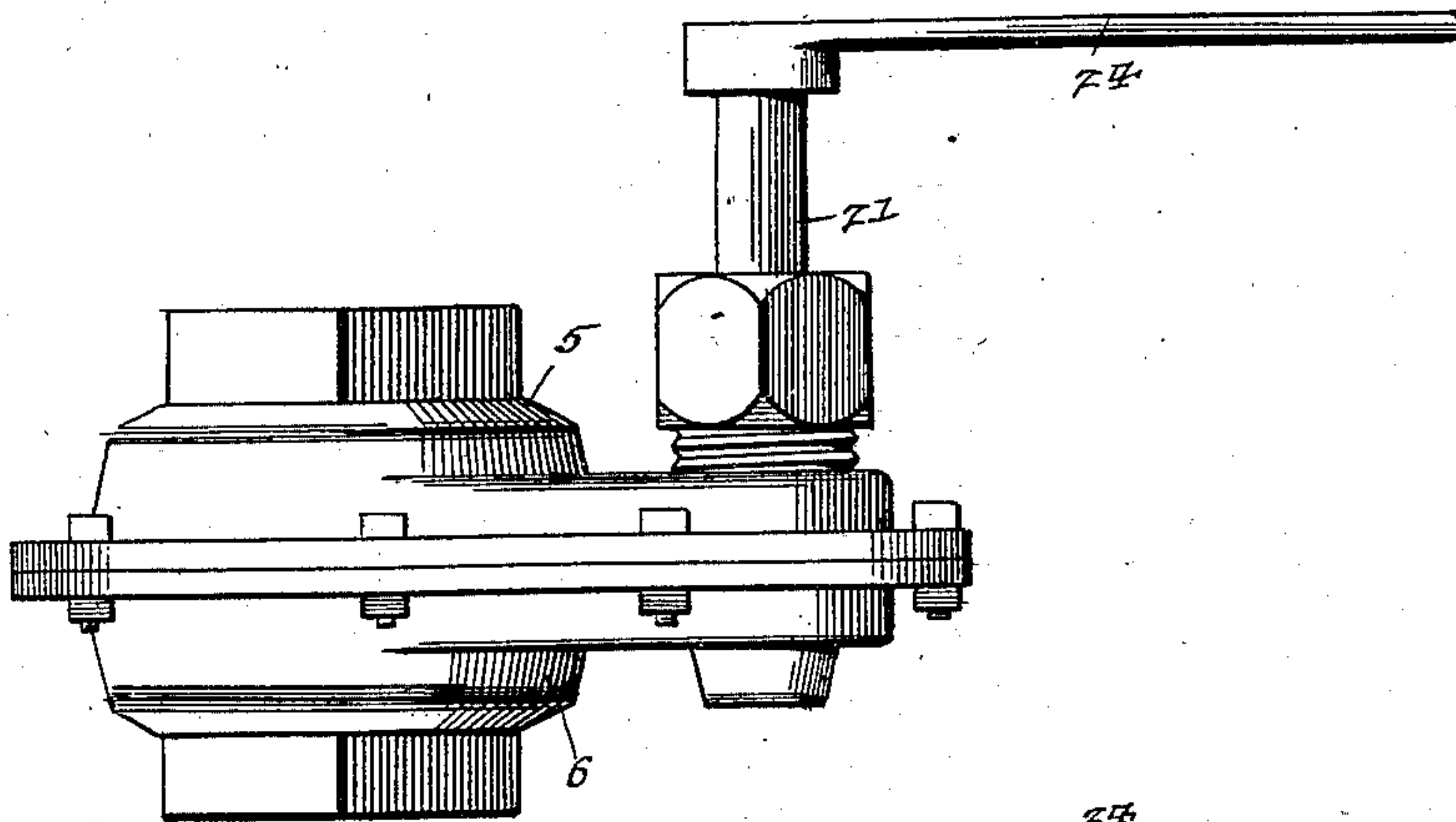


Fig. 2.

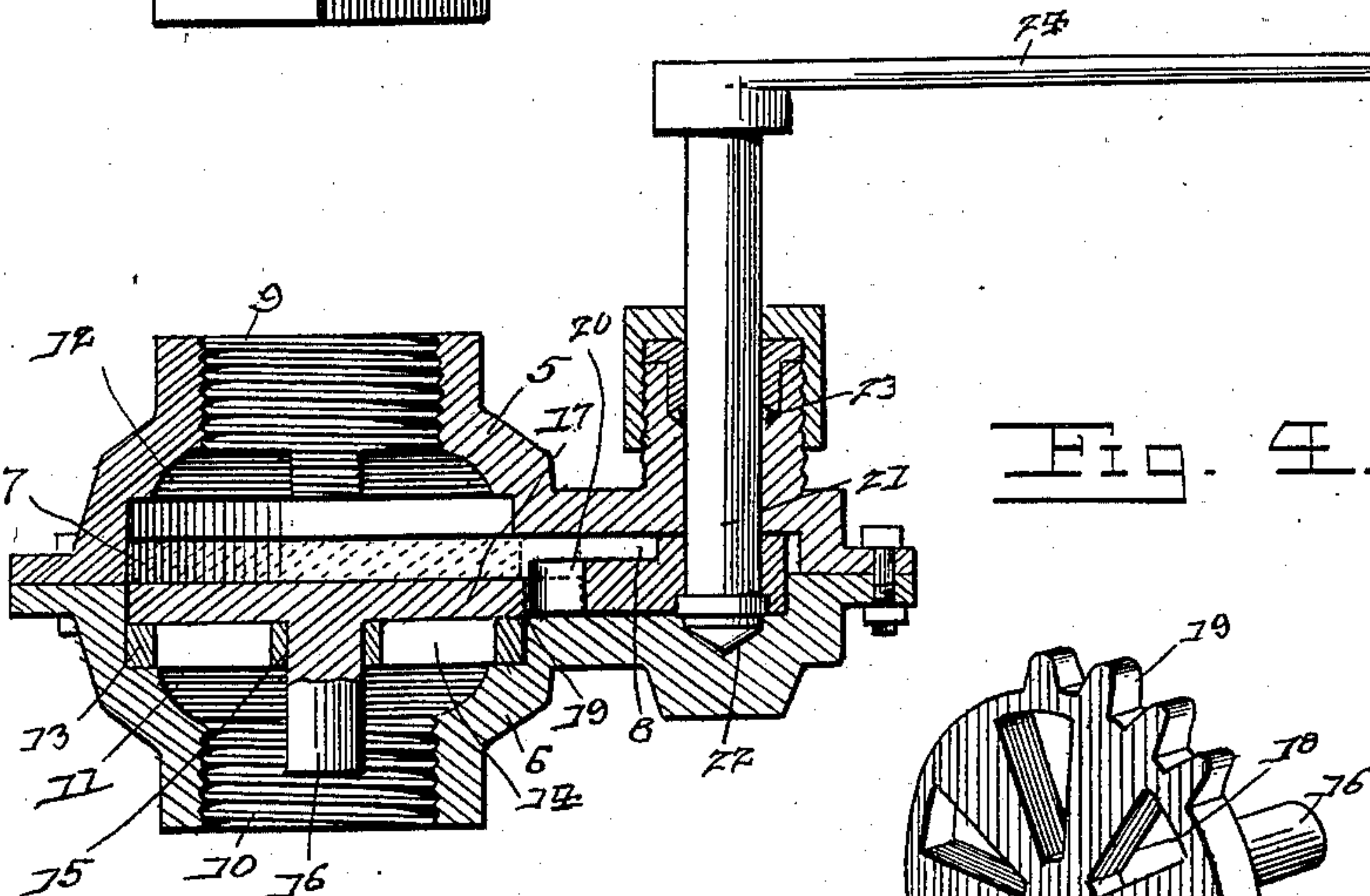


Fig. 3.

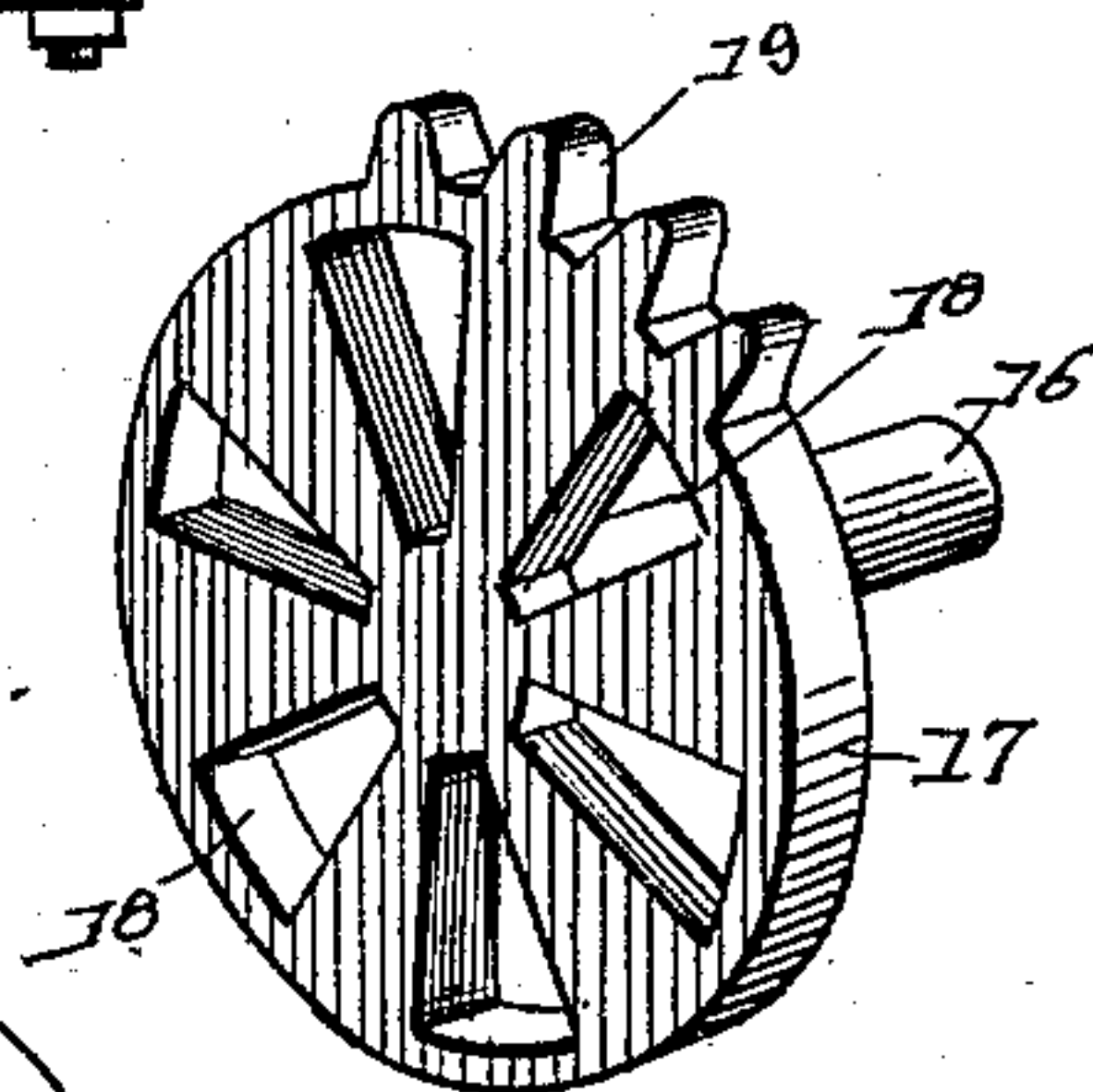
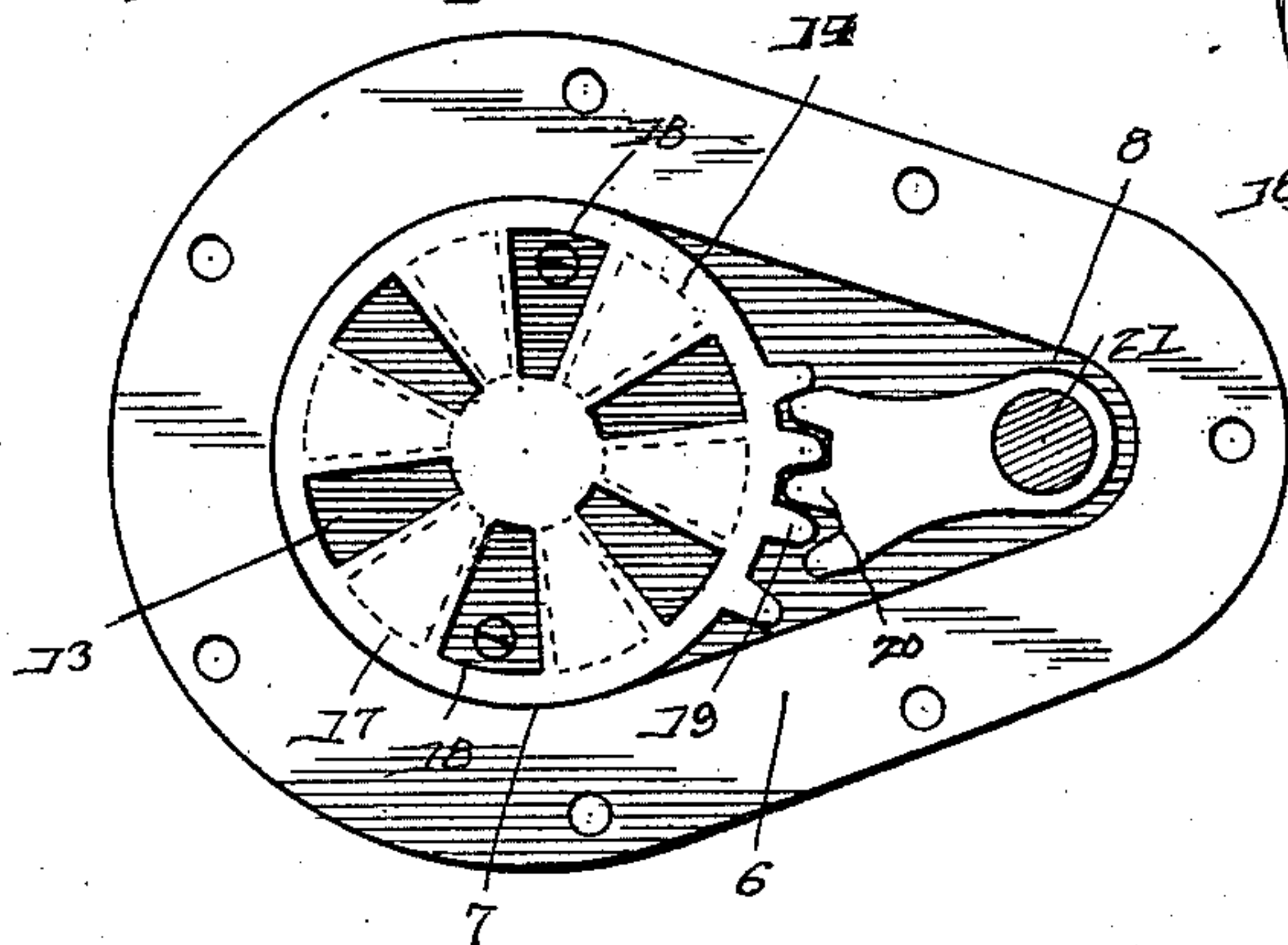


Fig. 4.



Witnesses
F. E. Alden.
Geo. H. Chandler.

C. F. Pekor Inventor
by C. A. Snow & Co.
Attorneys

UNITED STATES PATENT OFFICE.

CHARLES F. PEKOR, OF COLUMBUS, GEORGIA.

VALVE.

SPECIFICATION forming part of Letters Patent No. 664,580, dated December 25, 1900.

Application filed August 25, 1900. Serial No. 28,075. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. PEKOR, a citizen of the United States, residing at Columbus, in the county of Muskogee and State of Georgia, have invented a new and useful Valve, of which the following is a specification.

This invention relates to valves in general, and more particularly to cut-off valves, one object of the invention being to provide a construction wherein the valve will be quickly and positively operated to open or close it, which will be self-grinding, and wherein there can be no sticking of the parts.

A further object of the invention is to provide a construction which may have the function also of a check-valve, the parts being so formed and disposed that they may be manipulated when the valve is raised from its seat to maintain the valve open when it returns or to have it close when it returns, as may be preferred.

Further objects and advantages of the invention will be apparent from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation showing the complete valve. Fig. 2 is a vertical section showing the valve in its open position. Fig. 3 is a plan view showing the lower half of the valve-casing, with the valve-disk and its operating means, the shaft of said operating means being shown in section. Fig. 4 is a perspective view showing the valve-disk in detail.

Referring now to the drawings, the present valve includes a casing comprising an upper member 5 and a lower member 6, which are similar in form and which when assembled form a valve-chamber 7 and a supplemental chamber 8, leading thereto.

The members 5 and 6 have axially-aligned water-passages 9 and 10 leading into the valve-chamber, which passages are threaded at their outer ends to receive pipes, while at their inner ends they are countersunk, as shown at 11 and 12.

In that portion of the valve-chamber lying in the member 6 there is disposed a disk 13, having radially-extending triangular open-

ings 14 therethrough, while centrally of the disk is formed a bearing 15, in which is disposed the spindle 16 of a second disk 17, which forms the valve proper, the disk 13 forming the valve-seat. The disk 17 has also triangular slots or openings therethrough and extending radially thereof, and these openings 18 are so disposed that in one position of the disk 17 they will register with the openings 14 and permit passage of water through the valve-casing. By then rotating the disk 17 it may be caused to cover the openings 14 to different degrees, and thus vary the aggregate cross-section of the water-passage to vary the flow through the casing.

To provide for oscillating the disk 17 to cover and uncover the openings 14, said disk has a mutilated gear 19 formed on a portion of its periphery and with which is engaged a second mutilated gear 20, disposed in the supplemental chamber 8, this mutilated gear 20 being fixed upon a rock-shaft 21, which is passed inwardly of the chamber 8 through the member 5 of the casing. It will be noted that the supplemental chamber 8 is substantially triangular in form to permit limited movement of the gear 19, which latter will strike one side wall of the supplemental chamber when the gear has moved sufficiently far to close the valve and will strike the opposite wall of the supplemental chamber when the gear has been moved sufficiently far in the opposite direction to open the valve. The gears are thus held against disengagement at all times and no breaking thereof can occur due to movement into initial engagement when the teeth thereof are not in proper positions, as would be the case were it possible to move one gear entirely from engagement with the other. The shaft 21 has a bearing at its lower end in a recess 22 in the bottom of the chamber 8 and has also a bearing in a stuffing-box 23 upon the member 6 of the casing, as shown. A handle 24 upon the upper end of the shaft provides for rocking it to oscillate the mutilated gear 20 and correspondingly operate the disk 17.

It will be noted that the thickness or height of the disk 17 is less than that of the mutilated gear 20 and that the chamber in which disk 17 is disposed is of such height that the disk 17 may be raised bodily from

the disk 13, and thus expose the openings 14 and permit passage of water through the casing. The height of the mutilated gear 20, however, maintains constant engagement thereof with the gear 19, so that whether the disk 17 be raised or lowered it may be rotated or oscillated by manipulation of the handle 24. With this construction it will be seen that with pressure against the disk 17 from through the passage 9 the disk will be held firmly in its operative position against disk 13 and the valve can be opened only by rotation of the disk 17, while any back pressure through the valve will act to raise disk 17 to open the valve, the disk 17 thus acting as a check-valve. Furthermore, the constant mesh of the gears permits the disk 17 to be rotated to either its open or closed position while yet raised from the disk 13, so that when back pressure is removed the disk 17 in returning will assume the proper relation to disk 13.

It will be understood that in practice various modifications of the specific construction shown may be made and that any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention.

What is claimed is—

1. The combination with a valve-casing having a slotted seat, of an oscillatory disk disposed in coöperative relation to the seat and having radially-disposed slots or openings for registration at times with the slots of the seat, said disk having a segmental gear

thereon, and being adapted for oscillation, stops in the path of oscillatory movement of the gear to limit the movement of the disk, said disk being bodily movable from its seat, and a second segmental gear engaged with the first gear and having a height greater than the bodily movement of the disk to maintain engagement of the gears at all times.

2. The combination with a valve-casing including a valve-chamber and a supplemental chamber communicating therewith, said valve-chamber having a valve-seat, of an oscillatory disk disposed in coöperative relation to the seat and having radially-disposed slots for registration at times with the slots of the seat, a segmental gear formed upon the periphery of the disk and projecting into the supplemental chamber and disposed for engagement with the walls of the supplemental chamber to limit the oscillatory movement of the disk, a second gear in the supplemental chamber and engaging the gear on the disk, and means for actuating the second gear to give oscillatory movement to the disk, the disk being bodily movable from its seat and the dimensions of the gears being such as to maintain engagement in all positions of the disk.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES F. PEKOR.

Witnesses:

WM. W. HUNT,
H. L. LAYFIELD.